



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/822,548	04/12/2004	Marc Seghatal	1550.36US03	1792
7590	07/20/2010			
Brad Pedersen Patterson, Thuente, Skaar & Christensen, P.A. 4800 IDS Center 80 South 8th Street Minneapolis, MN 55402-2100			EXAMINER	
			BUTLER, PATRICK NEAL	
ART UNIT	PAPER NUMBER			
	1791			
MAIL DATE	DELIVERY MODE			
07/20/2010	PAPER			

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

---

*Ex parte* MARC SEGHATOL and JEAN-PIERRE DURAND

---

Appeal 2009-014678  
Application 10/822,548  
Technology Center 1700

---

Before EDWARD C. KIMLIN, JEFFREY T. SMITH, and  
BEVERLY A. FRANKLIN, *Administrative Patent Judges*.

KIMLIN, *Administrative Patent Judge*.

DECISION ON APPEAL<sup>1</sup>

This is an appeal from the final rejection of claims 1, 33 and 37. We have jurisdiction under 35 U.S.C. § 6(b).

Claim 1 is illustrative:

---

<sup>1</sup> The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, or for filing a request for rehearing, as recited in 37 C.F.R. § 41.52, begins to run from the “MAIL DATE” (paper delivery mode) or the “NOTIFICATION DATE” (electronic delivery mode) shown on the PTOL-90A cover letter attached to this decision.

1. A method for constructing a part of a tooth using a hardened object, said method comprising:

- (i) forming a hardenable object into a shape suitable for reconstructing part of a tooth from a microwave curable polymer composition; and
- (ii) using a hand held microwave source to apply microwave energy to intra-orally harden said hardenable object.

The Examiner relies upon the following in the rejection of the appealed claims (Ans. 3):

Nakazato	4,873,269	Oct. 10, 1989
Podszun	5,147,903	Sep. 15, 1992
Stevens	5,421,727	Jun. 06, 1995
Seghatol	6,254,389 B1	Jul. 03, 2001
Stangel	6,605,651 B1	Aug. 12, 2003

Appellants' claimed invention is directed to a method for constructing part of a tooth intra-orally. The method entails using a hand-held microwave source to apply microwave energy to a microwave curable polymer composition which forms part of the re-constructed tooth.

Claims 1, 33, and 37 stand rejected on the ground of non-statutory obviousness-type double patenting over claim 10 of US patent 6,254,389 B1. Claims 1, 33, and 37 also stand rejected under 35 U.S.C. § 102(e) as being anticipated by Stangel. In addition, all the appealed claims stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Podszun in view of Nakazato and Stevens.

Appellants have conceded the obviousness-type double patenting rejection in view of claim 10 of US patent 6,254,389. Appellants also agree to submit the necessary papers to overcome the double patenting rejection (i.e., a terminal disclaimer). (App. Br. 10). Consequently, we decline to

decide the appeal as to the obviousness-type double patenting rejection as the Appellants have waived any appeal of the rejection.

Regarding the rejection under § 102(e) over Stangel, Appellants have indicated that the rejected claims were copied from the Strangel reference. (Reply Br. 2). Appellants also agree to submit the necessary papers to establish a date of invention prior to the Strangel reference. (*Id.*) Consequently, we decline to decide the appeal as to the § 102(e) rejection as the Appellants have waived any appeal of the rejection.

Concerning the § 103 rejection, we have thoroughly reviewed each of Appellants' arguments for patentability. However, we are in complete agreement with the Examiner that the claimed subject matter would have been obvious to one of ordinary skill in the art within the meaning of § 103 in view of the applied prior art. Accordingly, we will sustain the Examiner's § 103 rejection for essentially those reasons expressed in the Answer, and we add the following primarily for emphasis.

There is no dispute that Podszun, like Appellants, teaches the use of methacrylate polymers to make or fill teeth and that Nakazato evidences that it was known in the art to cure methacrylate polymers with microwave energy. As recognized by the Examiner, Podszun and Nakazato do not teach curing methacrylate polymers intra-orally with a hand-held source of microwave energy. However, as pointed out by the Examiner, Stevens discloses a hand-held tool for providing microwave energy intra-orally to treat teeth. Accordingly, based on the collective teachings of the references, we agree with the Examiner that it would have been *prima facie* obvious for one of ordinary skill in the art to use the hand-held tool of Stevens, or one

similar thereto, to provide microwave energy for curing a microwave curable polymer composition intra-orally, as presently claimed.

Appellants contend that “Stevens is directed only to disinfecting a tooth *during* a root canal procedure” (App. Br. 12, last para.). As such, Appellants maintain that the because of the temperatures involved in conventional microwave oven curing of thermally polymerizable dental compositions, “a person of ordinary skill in the art would not have any reasonable expectation of success in considering the use of a handheld sterilization probe for root canals as a mechanism for intra-orally curing thermally curable dental composites” (App. Br. 13, first para.).

We do not subscribe to Appellants’ position that Stevens is directed only to disinfecting a tooth with microwave energy. Rather, Stevens expressly teaches that the disclosed invention is directed to “dental handpieces and/or root-canal (endodontic) instruments . . . arranged for microwave/RF radiation, for aiding in cleaning, disinfecting, shaping and/or sealing the inner confines of a tooth” (col. 1, first para.). Manifestly, Stevens teaches, in addition to disinfecting, hand-held instruments for delivering microwave energy for shaping and sealing/filling tooth material. As a result, we have no doubt that one of ordinary skill in the art would have readily understood that Stevens is directed to shaping and sealing/filling material for re-constructing a tooth that is curable by microwave energy.

As for Appellants’ argument regarding “the extreme temperatures associated with conventional microwave oven curing of thermally curable dental composites” (App. Br. 13, first para.), the Examiner correctly points out that Podszun teaches compositions for filling teeth that polymerize at only 50 °C. Moreover, inasmuch as Appellants do not claim any new

microwave curable polymer compositions, we are confident that one of ordinary skill in the art would have found it obvious to use microwave curable compositions in practicing the invention of Stevens that do not require high curing temperatures. While Appellants maintain that exposure to temperatures above 43 °C does damage to healthy living tissue in the vicinity of teeth, Appellants have apprised us of no reason for why it would have been non-obvious for one of ordinary skill in the art to select a composition that is microwave curable at lower temperatures.

As a final point, we note that Appellants base no argument upon objective evidence of non-obviousness, such as unexpected results.

In conclusion, based on the foregoing and the reasons well stated by the Examiner, the Examiner's decision rejecting the appealed claims is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a) (2008).

AFFIRMED

ssl

BRAD PEDERSEN  
PATTERSON, THUENTE, SKAAR & CHRISTENSEN, P.A.  
4800 IDS CENTER  
80 SOUTH 8TH STREET  
MINNEAPOLIS, MN 55402-2100